*Before the*
**Federal Communications Commission**
**Washington, D.C. 20554**



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| In the Matter of | ) | |
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| The Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band and at the 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency Band for Fixed Satellite Services Providing Feeder Links to the Broadcasting-Satellite Service and for the Satellite Services Operating Bi-directionally in the 17.3-17.8 GHz Frequency Band | ) | IB Docket No. 06-123 |

**REPORT AND ORDER**

**AND FURTHER NOTICE OF PROPOSED RULEMAKING**

**Adopted:** May 2, 2007 **Released:** May 4, 2007

**Comment Date:** (75 days after Federal Register publication)
**Reply Comment Date:** (105 days after Federal Register publication)

By the Commission: Commissioner McDowell issuing a statement; Commissioner Adelstein approving in part, dissenting in part, and issuing a separate statement.

**TABLE OF CONTENTS**

## I. INTRODUCTION

1. With this Report and Order (*R&O*), we adopt processing and service rules for the 17/24 GHz Broadcasting-Satellite Service (BSS).[1] This service will introduce a new generation of broadband services to the public, providing a mix of local and domestic video, audio, data, video-on-demand, and multi-media services to U.S. consumers. In some cases, these services will complement existing Direct Broadcast Satellite (DBS) services. Specifically, we adopt a first-come, first-served licensing procedure for the 17/24 GHz BSS, as well as various safeguards, reporting requirements, and licensee obligations. We also adopt geographic service rules to require 17/24 GHz BSS licensees to provide service to Alaska and Hawaii as discussed herein. In addition, we establish rules and requirements for orbital spacing, minimum antenna diameter, and antenna performance standards. Also, we establish limits for uplink and downlink[2] power levels to minimize the possibility of harmful interference. Finally, we stipulate criteria to facilitate sharing in the 24 GHz and 17 GHz bands. We also initiate a Further Notice of Proposed Rulemaking (*FNPRM*) to address technical issues related to potential interference unique to the "reverse band" operating environment. By these actions, we facilitate the introduction of new and innovative services to consumers in the United States and promote increased competition among satellite and terrestrial services.

## II. BACKGROUND

2. In June 2006, the Commission released a *Notice of Proposed Rulemaking* ("*NPRM*") in this proceeding, which proposed processing and service rules for the 17/24 GHz BSS.[3] Eight parties filed comments in response to the *NPRM*, and six parties filed reply comments.[4]

3. As the Commission explained in the *NPRM*, the 1992 World Administrative Radio Conference (WARC-92) of the International Telecommunication Union (ITU)[5] adopted an additional frequency allocation for BSS in Region 2.[6] In 2000, the Commission implemented, in large part, the ITU

[1] BSS is the international term used for a radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public. *See, e.g.*, 47 C.F.R. § 2.1. In this item, the term "17/24 GHz BSS" generally refers to the broadcasting-satellite service operating on space-to-Earth (downlink) frequencies in the 17.3-17.8 GHz band and the corresponding Earth-to-space (uplink) frequencies in the 24.75-25.25 GHz band.

[2] For this service, the downlink (space-to-Earth) frequencies, 17.3-17.7 GHz, are radiocommunication links that provide signals to consumers and are frequencies allocated to the Broadcasting Satellite Service (BSS). The uplink (Earth-to-space) frequencies, 24.75-25.25 GHz, are radiocommunication links that provide the source of the BSS signals retransmitted by the satellite and are frequencies allocated to the Fixed-Satellite Service (FSS).

[3] The Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band and at the 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency Band for Fixed Satellite Services Providing Feeder Links to the Broadcasting-Satellite Service and for the Satellite Services Operating Bi-directionally in the 17.3-17.8 GHz Frequency Band, *Notice of Proposed Rulemaking*, IB Docket No. 06-123, 21 FCC Rcd 7426 (2006) ("*17/24 GHz BSS NPRM*" or "*NPRM*").

[4] These parties are listed in Appendix D.

[5] The ITU, based in Geneva, Switzerland, is a United Nations specialized organization that deals with international communications issues.

[6] International Telecommunication Union, Final Acts of the World Administrative Radio Conference (Malaga-Torremolinos, 1992). The ITU Radio Regulations divide the world into three regions. Generally, Region 1 includes Africa, Europe, and northern and western portions of Asia; Region 2 includes the Americas and Greenland; Region 3 includes southern portions of Asia, Australia, and the South Pacific. *See* ITU Radio Regulations, Article 5, Section 1.

Region 2 allocation for BSS domestically.[7] The Commission recognized that although the allocation would not become effective for several years, its action would provide interested parties with sufficient notice and time to design their systems to use this spectrum in the most efficient manner.[8] Specifically, the Commission adopted the following allocations and designations, which took effect on April 1, 2007: (1) allocated the 17.3-17.7 GHz band, on a primary basis, to the BSS for downlink transmissions,[9] recognizing that although the ITU Region 2 allocation apportioned the 17.3-17.8 GHz band for BSS use, the U.S. allocation would be limited to 17.3-17.7 GHz to retain spectrum at 17.7-17.8 GHz for the relocation of fixed service (FS) facilities which were being displaced as a result of the new BSS allocation;[10] (2) allocated 300 megahertz of spectrum at 24.75-25.05 GHz on a primary basis for the Fixed-Satellite Service (FSS) (uplink) and limited FSS uplink operations in this band to BSS feeder links;[11] and (3) allocated 200 megahertz of spectrum at 25.05-25.25 GHz for co-primary use between the 24 GHz Fixed Service, formerly known as Digital Electronic Messaging Service (DEMS), and BSS feeder links.[12] The Commission's objective was to accommodate new satellite services while providing adequate spectrum for existing FS operations.[13]

4. In the *NPRM,* the Commission proposed and sought comment on a variety of rules to facilitate the licensing of 17/24 GHz BSS space stations, and various obligations and requirements that will be applied to licensees. Also, the *NPRM* sought comment on technical rules designed to minimize interference and facilitate sharing in certain bands. The rules adopted in this Order establish licensing procedures and technical parameters that will enable prompt delivery of 17/24 GHz BSS satellite services to the public.

5. Four entities – DIRECTV Enterprises, Inc. (DIRECTV), Pegasus Development DBS Corp. (Pegasus), EchoStar Satellite LLC (EchoStar), and Intelsat North America LLC (Intelsat) – have filed applications for 17/24 GHz BSS space station licenses.[14] These applications represent a wide range of system designs and business plans, from complementing existing DBS services to providing a new suite of services which will include standard-definition and high-definition formats. We adopt in this Order a method for processing these applications and accommodating entry by other qualified applicants.

## III. DISCUSSION

### A. Licensing and Processing Procedures

#### 1. Licensing Framework

6. ***First-Come, First-Served Licensing Approach Adopted:*** In the *NPRM*, the Commission sought comment on the appropriate licensing approach to adopt for the 17/24 GHz BSS.[15] The *NPRM*

[7] Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, *Report and Order,* 15 FCC Rcd 13430, 13482 (2000) ("*18 GHz Report and Order*").

[8] *18 GHz Report & Order,* 15 FCC Rcd at 13478.

[9] *18 GHz Report & Order,* 15 FCC Rcd at 13476, 13478.

[10] *18 GHz Report & Order,* 15 FCC Rcd at 13477-78.

[11] *18 GHz Report & Order*, 15 FCC Rcd at 13476, 13479.

[12] *18 GHz Report & Order,* 15 FCC Rcd at 13476, 13479-80.

[13] *18 GHz Report & Order,* 15 FCC Rcd at 13476, 13479-80.

[14] *See* Appendix E.

[15] *17/24 GHz BSS NPRM,* 21 FCC Rcd at 7431-32, paras. 7-9.

noted that, in the *First Space Station Licensing Reform Order*,[16] the Commission adopted new licensing procedures for all satellite services except DBS and Digital Audio Radio Service (DARS).[17] The Commission did not explain, however, whether 17/24 GHz BSS should be treated like DBS or other satellite services for purposes of processing applications.[18] Thus, the *NPRM* sought comment on whether to process applications for the 17/24 GHz BSS space stations under the first-come, first-served licensing approach adopted in the *First Space Station Licensing Reform Order* for geostationary satellite orbit (GSO)-like[19] space station applications. Under this approach, GSO-like satellite applications are processed on a first-come, first-served basis. Thus, the Commission will grant a GSO-like application provided the applicant is qualified and the proposed system is not technically incompatible with a previously-licensed satellite or with a satellite proposed in a previously-filed application.[20] Alternatively, we asked whether some other licensing approach would be more appropriate.[21] In this regard, the *NPRM* specifically sought comment as to whether, pursuant to Section 309(j)[22] of the Communications Act, a competitive bidding system, or auction, could be designed to assign mutually exclusive applications for the use of this spectrum. The *NPRM* also sought comment on whether and how such an auction could be implemented consistent with the ORBIT Act,[23] the D.C. Circuit's *Northpoint* ruling,[24] and ITU

[16] Amendment of the Commission's Space Station Licensing Rules and Policies, *First Report and Order and Further Notice of Proposed Rulemaking*, IB Docket No. 02-34, 18 FCC Rcd 10760, 10764, n. 4 (2003) ("*First Space Station Licensing Reform Order*") (*petitions for reconsideration pending*). These rules became effective on August 27, 2003.

[17] *17/24 GHz BSS NPRM*, 21 FCC Rcd at 7431, para. 7.

[18] *17/24 GHz BSS NPRM*, 21 FCC Rcd at 7431, para. 7.

[19] "GSO-like space station" is defined as a geostationary satellite orbit space station designed to communicate with earth stations with directional antennas. Examples of GSO-like space stations are those which use earth stations with antennas with directivity towards the space stations, such as FSS, and feeder link receiving space stations on GSO mobile-satellite service (MSS) satellites. *See* 47 C.F.R. § 25.158(a).

[20] *See* 47 C.F.R. § 25.158. *See* EchoStar Satellite, LLC, *Order*, DA 05-1955 (rel. July 6, 2005) (denying an application that would conflict with a previously licensed satellite), *petition for reconsideration pending*.

[21] *17/24 GHz BSS NPRM*, 21 FCC Rcd at 7431, para. 8.

[22] 47 U.S.C. § 309(j).

[23] Open-Market Reorganization for the Betterment of International Telecommunications Act, Pub. L. No. 106-180, 114 Stat. 48 (2000), *as amended*, Pub. L. No. 107-233, 116 Stat. 1480 (2002), *as amended*, Pub. L. No. 108-228, 118 Stat. 644 (2004), *as amended*, Pub. L. No. 108-371, 118 Stat. 1752 (2004). The ORBIT Act amended the Communications Satellite Act of 1962, 47 U.S.C. § 701 *et seq.* (Satellite Act) and is *codified at* 47 U.S.C. § 761 *et seq.* Section 647 of the ORBIT Act, codified at 47 U.S.C. § 765f, prohibits the Commission from using competitive bidding to assign "orbital locations or spectrum used for the provision of international or global satellite communications services."

[24] *See Northpoint Technology, Ltd. And Compass Systems, Inc. v. Federal Communications Commission*, 412 F.3d 145 (D.C. Cir.2005) (*Northpoint*). In this decision, the appellate court vacated and remanded the section of the Commission's Order that concluded that DBS was not subject to the auction prohibition of the ORBIT Act. Auction of Direct Broadcast Satellite Licenses, *Order*, 19 FCC Rcd 820 (2004). The court found that the Commission's characterization of DBS as a "predominantly domestic" service was undermined by its *DISCO I Order*, which the court interpreted as actively promoting international service, and by the Commission's authorization of EchoStar's service to Mexico City, which the court viewed as implementing a policy of encouraging international service. *Northpoint*, 412 F.3d at 153-154 (*citing* EchoStar Satellite Corporation, Application for Minor Modification of Direct Broadcast Satellite Authorization, Launch and Operating Authority for EchoStar 7, *Order and Authorization*, 17 FCC Rcd 894 (2002)).

procedures.[25]

7. *The majority of commenters maintain that the first-come, first-served licensing queue* should be employed for processing applications for 17/24 GHz BSS space stations.[26] EchoStar, however, argues that 17/24 GHz BSS applications should not be processed under this approach, contending that this method does not result in the award of licenses to the applicant that is most able to put the spectrum to productive use.[27] EchoStar believes that we should instead award 17/24 GHz BSS licenses by auction or by a processing round approach.[28] To facilitate auctions, consistent with the ORBIT Act and the *Northpoint* ruling, EchoStar suggests that the Commission could limit 17/24 GHz BSS spectrum rights to the provision of domestic service if all competing applicants agree. Alternatively, EchoStar suggests that the Commission could require a percentage, such as 80%, of the 17/24 GHz BSS satellite's capacity be devoted to serving the United States.[29] EchoStar further suggests that, if the Commission decides against an auctions approach, it should adopt a processing round procedure combined with strict financial requirements.[30] No other commenters support the use of auctions or processing rounds.[31]

8. We find that the first-come, first-served licensing approach is well-suited for processing applications for 17/24 GHz BSS space stations.[32] As noted in the *NPRM*, the proposed 17/24 GHz BSS space stations would provide services similar to those provided by the direct-to-home fixed satellite service (DTH FSS) satellites. We also note that all 17/24 GHz BSS applicants propose to operate GSO satellites. Because GSO satellites and constellations of non-geostationary satellite orbit (NGSO) satellites cannot generally share the same spectrum, and because, as evidenced by the pending applications, GSO technology is better suited to providing DTH video services, we limit operations in the 17/24 GHz BSS to GSO satellites. The Commission licenses GSO satellites and most other satellite services on a first-come, first-served basis. As both Intelsat and DIRECTV point out, the first-come, first-served processing method has proven to be an efficient approach for licensing GSO satellites.[33] Indeed, our experience has shown that this licensing method has allowed the Commission to dramatically reduce the length of time

[25] *17/24 GHz BSS NPRM*, 21 FCC Rcd at 7432, para. 9.

[26] DIRECTV Comments at 16; Intelsat Comments at 2; SES Americom Comments at 23; Bermuda Comments at 2. In addition, Intelsat points out that the use of a competitive bidding system for DBS remains in question relying upon our recently released Notice of Proposed Rulemaking in Docket No. 06-160. Intelsat Comments at 2-4 (*citing* Amendment of the Commission's Policies and Rules for Processing Applications in the Direct Broadcast Satellite Service, Feasibility of Reduced Orbital Spacing for Provision of Direct Broadcast Satellite Service in the United States, *Notice of Proposed Rulemaking*, 21 FCC Rcd 9443, 9455, para. 23 (released August 18, 2006) ("*Reduced Spacing NPRM*")).

[27] EchoStar Comments at 17-18, EchoStar Reply Comments at 19-20.

[28] EchoStar Comments at 13-19. Given the scarcity of the orbit-spectrum resource, the Commission used "processing rounds" to license most satellites from 1983-2003. Under this approach, the Commission would place a space station application on Public Notice and designate a "cut-off" date by which other applicants could file applications to be considered concurrently with the first-filed application. *See, e.g.*, Assignment of Orbital Locations to Space Stations in the Domestic Fixed-Satellite Service, *Memorandum Opinion and Order*, 3 FCC Rcd 6972 (1988) ("*1988 Processing Order*") and Licensing Space Stations in the Domestic Fixed-Satellite Service, *Report and Order*, CC Docket No. 85-395, 58 Rad. Reg. 2d 1267, 1278 (para. 78) (rel. Aug. 29, 1985).

[29] EchoStar Comments at 14.

[30] EchoStar Comments at 18-19.

[31] DIRECTV Reply Comments at 7-8, Intelsat Reply Comments at 2, SES Americom Reply Comments at 10.

[32] DIRECTV Comments at 17, Intelsat Comments at 4-5, SES Americom Comments at 23, Bermuda Comments at 2.

[33] Intelsat Comments at 4-5.

required to process GSO applications. Moreover, with its associated package of safeguards, the first-come, first-served approach has increased the probability that those awarded licenses actually construct and launch their satellite systems. As commenters have noted, prompt deployment in this band is particularly important in light of the fact that the 17/24 GHz BSS spectrum became available for use on April 1, 2007.[34] In addition, the first-come, first-served licensing approach works well in conjunction with the ITU processes for unplanned bands, such as this one.[35]

9. We disagree with EchoStar that the first-come, first-served approach is legally unsound or that such an approach will be more likely to result in spectrum warehousing, speculation, and gamesmanship.[36] To the contrary, as mentioned, this approach has reduced the number of speculative applications. Further, we have previously addressed the Commission's legal authority to adopt a first-come, first-served procedure.[37] EchoStar has not provided any basis for revisiting that issue here.

10. We also are not persuaded that EchoStar's comments warrant a conclusion in this instance that a competitive bidding system would best serve the public interest. Although auctions have proven to be an efficient means of assigning licenses for scarce spectrum resources to those parties that are able to use these resources efficiently and effectively for the benefit of the public, we conclude that restricting the provision of international service solely to remove 17/24 GHz BSS from the auction prohibition of the ORBIT Act is not in the public interest. We are concerned that such a restriction would likely interfere with applicants' business plans and would thus be an impediment to the efficient deployment of service to consumers. Indeed, as Intelsat notes, three current applicants, including EchoStar, propose to provide international service.[38] Thus, the record does not support agreement by competing applicants to provide 17/24 GHz BSS domestic service only. Further, such restrictions could put U.S.-licensed operators at a competitive disadvantage to foreign-licensed 17/24 GHz BSS systems, which are not similarly restricted in their own domestic markets. For these reasons, we will not award licenses for 17/24 GHz BSS space stations by auction.

11. Further, we are not persuaded by EchoStar's proposal to adopt a processing round procedure.[39] Prior to the adoption of the *First Space Station Licensing Reform Order* in 2003, we employed a processing round procedure in licensing GSO-like applications. Under this procedure, it normally took several years to issue satellite licenses, in one case nearly four years.[40] Eliminating this regulatory delay was one of our primary motives in adopting the first-come, first served approach.[41]

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[34] DIRECTV Comments at 17.

[35] A "planned" band is a frequency band for which the ITU has assigned frequencies at certain orbital locations to particular countries. For example, the 12.2-12.7 GHz band, also referred to as the DBS band, is a planned band. In the 17/24 GHz BSS service and feeder link bands, the Radio Regulations require ITU member nations to bring their proposed satellite systems into use within seven years of the date the nation informs the ITU of its intent to construct and operate the satellite system. Failure to meet the bringing-into-use date causes the member nation to lose its priority relative to other member nations' proposed satellite systems. *See* No. 11.44 of the ITU Radio Regulations. Thus, an efficient licensing method that does not require further proceedings will facilitate each licensee's ability to obtain date priority at the ITU.

[36] EchoStar Comments at 17.

[37] *See First Space Station Licensing Reform Order,* 18 FCC Rcd at 10800-04, paras. 99-107.

[38] Intelsat Comments at 3, n. 7.

[39] EchoStar Comments at 18.

[40] DIRECTV Reply Comments at 10 (*citing* Second Round Assignment of Geostationary Satellite Orbit Locations to Fixed Satellite Service Space Stations in the Ka-band, *Order,* 16 FCC Rcd 14389 (2001)).

[41] *Space Station Reform NPRM,* 17 FCC Rcd at 3852, para. 11.

Since the first-come, first-served approach has been adopted, the average processing time for GSO-like applications has decreased drastically and the backlog of applications is at an all-time low.[42] The first-come, first-served processing queue provides a workable framework for timely and prompt processing of applications in this band and thereby facilitates the provision of service to the public. Accordingly, for the reasons discussed above, we will adopt the first-come, first-served procedure for processing 17/24 GHz BSS applications.

### 2. Safeguards Against Speculation

12. ***Space Station Reform Safeguards Adopted, Including Bonds, Milestones, and Limits on the Number of Pending Applications:*** In the *NPRM*, the Commission noted that the *First Space Station Licensing Reform Order* adopted a package of safeguards designed to discourage speculative applications and to ensure that licensees remain committed and able to proceed with system implementation in a timely manner.[43] Applying these safeguards to the 17/24 GHz BSS would require licensees to post a $3 million bond with the Commission within 30 days of license grant[44] and construct and launch the satellite consistent with the milestone schedule specified in Section 25.164 of the Commission's rules.[45] The bond becomes payable if a licensee fails to meet a milestone, rendering the license null and void.[46] Further, GSO-like applicants are limited to a total of five pending applications and/or licensed but unlaunched satellites in a particular frequency band at any one time,[47] and must submit substantially complete applications or face dismissal,[48] and cannot sell their place in the processing queue.[49] In the *NPRM,* the Commission requested comment on whether we should apply this package of safeguards if we decide to use the first-come, first-served processing approach for 17/24 GHz BSS.[50] The Commission also sought comment on whether there are any public interest rationales for imposing a higher performance bond and/or tighter limits on the number of pending applications and licenses for unbuilt satellites that applicants for 17/24 GHz systems may have at any one time.[51]

13. Commenters generally support applying the first-come, first-served approach safeguards to the 17/24 GHz BSS.[52] Intelsat states that applying the bond requirement and milestone policies should be sufficient to deter speculative filings in the 17/24 GHz BSS.[53] Intelsat also notes that prohibiting the

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[42] *See* Intelsat Comments at 4 (*citing* International Bureau 2004 Annual Report (January 13, 2005) available online at http://www.fcc.gov/realaudio/presentations/2005/011305/ib/ppt; International Bureau 2005 Annual Report (January 20, 2006) available online at http://www.fcc.gov/realaudio/presentations/2005/012006/ib/ppt).

[43] *17/24 GHz BSS NPRM,* 21 FCC Rcd at 7433, para. 10.

[44] 47 C.F.R. § 25.165(a)(2).

[45] 47 C.F.R. § 25.164(a). Under this milestone schedule, the licensee must enter into a binding, non-contingent construction contract within one year of grant; complete critical design review within two years; begin construction within three years; and launch and operate the satellite within five years of grant.

[46] 47 C.F.R. § 25.165.

[47] 47 C.F.R. § 25.159. *See First Space Station Licensing Reform Order*, 18 FCC Rcd at 10846-51, paras. 228-39.

[48] 47 C.F.R. § 25.112.

[49] 47 C.F.R. § 25.158(c). *See First Space Station Licensing Reform Order*, 18 FCC Rcd at 10851-52, paras. 241-43.

[50] *17/24 GHz BSS NPRM,* 21 FCC Rcd at 7433, para 10.

[51] *17/24 GHz BSS NPRM,* 21 FCC Rcd at 7433, para 10.

[52] Intelsat Comments at 6, DIRECTV Comments at 17. *See also* SES Americom Comments at 24 (generally concurring on the use of the first-come, first-served approach but with no mention of safeguards).

[53] Intelsat Comments at 6.

*sale of places in the queue will further deter speculative applications.*[54] *DIRECTV also supports the* application of the safeguards that apply to other GSO-like services, i.e., milestones and performance bonds, to 17/24 GHz BSS systems.[55] The Department of Telecommunications of the Government of Bermuda (Bermuda) notes that, although it does not support excessive reliance on the attainment of milestones nor the use of performance bonds for discouraging speculation, it supports the right of each administration to establish its own mechanisms to find a reasonable balance between commercial adventure and undue speculation.[56] EchoStar raises concerns about the use of bonds and milestones to deter speculation and recommends reinstating the financial qualification rules applicable to FSS licensees prior to 2003.[57] EchoStar contends that strict financial qualifications are needed because given the relatively limited number of orbital locations for operation in the 17/24 GHz BSS, the bond and milestone requirements are not enough to protect against speculation and could still result in an orbital location remaining fallow for several years.[58]

14. We adopt our proposal in the *NPRM* to apply the safeguards in place under the first-come, first-serve licensing approach to the 17/24 GHz BSS. Contrary to EchoStar's assertions, our experience with these safeguards has shown them to be an effective measure for discouraging speculative applications. Indeed, the Commission adopted the bond requirement because the financial qualification requirements it had been using – and which EchoStar asks us to reinstate – did not accurately reflect whether a licensee would proceed with construction and launch of its space station. The Commission found requiring a surety company to assess the risk that a licensee would default on a bond would provide a more accurate market–driven determination of a licensee's ability to proceed than would a regulatory determination.[59] EchoStar has not provided any evidence to support its assertion that the previously-used financial standard was more effective. Consequently, we will not adopt EchoStar's proposal. Further, the record does not support more stringent bond requirements or different limits on the number of pending applications/unbuilt satellites for the 17/24 GHz BSS. Thus, we will apply the requirements in place for other GSO-like applicants to 17/24 GHz BSS applicants.

15. Accordingly, we will apply the same safeguards in place for other GSO-like bands to the 17/24 GHz BSS. These safeguards include requiring licensees to post a $3 million bond with the Commission within 30 days of license grant; to construct and launch satellite system(s) consistent with the milestone schedule for GSO satellites; to limit to five, the number of pending applications and/or licenses for unbuilt satellites in this band at any one time; and to file substantially complete applications. The safeguards also prohibit applicants from selling their places in the queue.

16. With respect to the "substantially complete" requirement, we require applications to be complete in substance, and to provide all the information required in the application form.[60] Furthermore, applications must not be defective under the Commission's rules, meaning that the applications must be complete with respect to answers to questions and informational showings, and must be free of internal inconsistencies.[61] To be substantially complete, a 17/24 GHz BSS satellite application must include a

[54] Intelsat Comments at 6.

[55] DIRECTV Comments at 17.

[56] Bermuda Comments at 3.

[57] EchoStar Comment at 18.

[58] EchoStar Comments at 18.

[59] *First Space Station Licensing Reform Order*, 18 FCC Rcd at 10825.

[60] *See Space Station Reform NPRM*, 17 FCC Rcd at 3875-76, para. 84.

[61] Section 25.112(a)(1) of the Commission's rules, 47 C.F.R. § 25.112(a)(1).

complete Form 312[62] and Schedule S, and all the information requested in Section 25.114(d) of the Commission's rules.[63] As amended in Appendix B of this Order, Section 25.114(d) requires 17/24 GHz BSS satellite applicants to show that the proposed satellite will be able to function in a four-degree spacing environment.[64] Applicants will be required to demonstrate that they comply with the pfd limits in new Section 25.208(v), or, if they do not, to demonstrate how they will affect adjacent 17/24 GHz BSS satellite networks, and that the operators of those networks agree to the applicant's proposed operations. Applicants whose proposed orbital locations are offset from the 17/24 GHz BSS orbital locations listed in Appendix F will be required to show that they do not cause more interference than if they operated at an exact location listed in Appendix F, and that their satellite network's performance objectives will be met assuming that adjacent operators are operating at the maximum allowed power flux density levels.

### 3. Non-U.S.-Licensed Satellite Operators

17. ***DISCO II Market Access Standard Adopted:*** The Commission's *DISCO II Order*[65] implemented the market-opening commitments made by the United States in the World Trade Organization ("WTO") Agreement on Basic Telecommunications Service ("WTO Basic Telecom Agreement"). In particular, the *DISCO II Order* established a framework under which the Commission will consider requests for non-U.S.-licensed space stations to serve the United States.[66] This analysis considers the effect on competition in the United States,[67] eligibility and operating requirements,[68] spectrum availability,[69] and national security, law enforcement, foreign policy, and trade concerns.[70]

18. Under *DISCO II*, the Commission evaluates the effect of foreign entry on competition in the United States in one of two ways. First, in cases where the non-U.S.-licensed space station is licensed by a country that is a member of the WTO and will provide services covered by the U.S. commitments under the WTO Basic Telecom Agreement, the Commission presumes that entry will further competition in the United States. The U.S. commitments include Mobile-Satellite Services (MSS) and many fixed-

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[62] *See* note 139 below regarding the new certification requirement on Form 312.

[63] Section 25.114(d) of the Commission's rules, 47 C.F.R. § 25.114(d).

[64] In particular, we have revised Part 25 in this Order to require all 17/24 GHz BSS applicants to submit link budget analyses to demonstrate that their proposed system will meet its performance objectives in the presence of the worst-case interference that can be expected from neighboring 17/24 GHz BSS space stations.

[65] Amendment of the Commission's Regulatory Policies to Allow Non-U.S.-Licensed Space Stations to Provide Domestic and International Satellite Service in the United States, *Report and Order*, 12 FCC Rcd 24094 (1997) ("*DISCO II Order*").

[66] To implement this framework, the Commission, among other things, established a procedure by which a service provider in the United States could request immediate access to a foreign in-orbit space station that would serve the U.S. market. *DISCO II Order*, 12 FCC Rcd at 24174, para. 186. This procedure allows a non-U.S.-licensed earth station operator seeking to communicate with a non-U.S.-licensed space station to file an earth station application for an initial license or for a modification of its existing earth station license, listing the foreign-licensed space station as a permitted point of communication. Because the Commission does not issue duplicative U.S. licenses for space stations licensed by other countries, a U.S. earth station application often represents the Commission's first opportunity to evaluate whether the foreign-licensed space station complies with the Commission's technical, legal, and financial qualification requirements.

[67] *DISCO II Order,* 12 FCC Rcd at 24107-56, paras. 30-145.

[68] *Id.* at 24159-69, paras. 151-74.

[69] *Id.* at 24157-59, paras. 146-50.

[70] *Id.* at 24169-72, paras. 175-82.

satellite services, but specifically exclude DTH, DBS, and DARS.[71] In contrast, the Commission conducts an "ECO-Sat" analysis for non-U.S.-licensed space stations licensed by countries that are not WTO members and where the foreign operator, regardless of its licensing country's WTO status, proposes to provide a non-covered service. Under this analysis, applicants seeking to access a foreign space station must provide an analysis as part of their application[72] demonstrating that U.S.-licensed space stations have effective competitive opportunities to provide analogous services in the country in which the space station is licensed ("home" market) and in all countries in which communications with the U.S. earth station will originate or terminate ("route" markets).[73] In particular, the Commission examines whether there are any *de jure* or *de facto* barriers to entry in the foreign country for the provision of analogous services and whether any such barriers cause competitive distortions in the U.S. market. In the *NPRM*, the Commission proposed to apply this framework to non-U.S.-licensed 17/24 GHz BSS satellite operators seeking to access the U.S. market.

19. With respect to eligibility requirements, the Commission also proposed, in the *NPRM*, to extend to 17/24 GHz BSS operators the *DISCO II* policy that requires foreign-licensed space stations and operators to meet the same legal, technical, and financial requirements that we require U.S. applicants to meet. These include any requirements adopted in this proceeding, such as bond requirements, milestone requirements, geographic service requirements, public interest obligations, and spacecraft end-of-life disposal requirements.

20. Further, as in other satellite services, the Commission also proposed to require entities requesting authority to serve the U.S. market from a non-U.S. satellite to provide the same information concerning the 17/24 GHz BSS satellite as U.S. applicants must provide when applying for a space station license.[74] This allows us to determine whether the foreign-licensed satellite complies with all Commission technical and service requirements, and whether it may cause interference to satellites providing authorized services to U.S. customers.

21. The commenters generally support this approach.[75] EchoStar and SES Americom suggest that we should strictly enforce the ECO-Sat test because it allows us to ensure that U.S.-licensed operators have the same opportunity to provide 17/24 GHz BSS services to foreign countries as the satellites licensed by foreign countries have to serve the United States.[76] In contrast, however, Bermuda notes that consumers would benefit if there was an increased presumption in all cases that entry to the market will further competition.[77]

22. We adopt the Commission's proposal in the *NPRM* to evaluate the applications of non-

[71] *DISCO II Order*, 12 FCC Rcd at 24104, para. 25. The United States' exemptions to the WTO Basic Telecom Agreement can be found at http://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_commit_exempt-list_e.htm (exempting "One-way satellite transmission of DTH and DBS transmission services and of digital audio services").

[72] 47 C.F.R. § 25.137.

[73] 47 C.F.R. § 25.137(a).

[74] *First Space Station Licensing Reform Order*, 18 FCC Rcd at 10872, para. 300. *See* 47 C.F.R. § 25.137. Thus, foreign entities must file a Schedule S and a narrative exhibit providing all the information required in Section 25.114 (d) of the Commission's rules. 47 C.F.R. § 25.114(d).

[75] EchoStar Comments at 21, SES Comments at 24, Intelsat Comments at 6, Bermuda Comments at 4, DIRECTV Comments at 18.

[76] EchoStar Comments at 21; SES Comments at 24.

[77] Bermuda Comments at 4.

U.S.-licensed 17/24 GHz BSS satellite operators seeking to access the U.S. market under the *DISCO II* framework. Thus, our analysis will consider the effect on competition in the United States, eligibility and operating requirements, spectrum availability, and national security, law enforcement, foreign policy, and trade concerns. We note in particular that all applications seeking authority to provide DTH services from non-U.S.-licensed 17/24 GHz BSS operators to the U.S. market must include an ECO-Sat analysis. We will not eliminate this analysis in favor of a presumption that entry, in all cases, will further competition, as Bermuda suggests. The ECO-Sat analysis assures us that a foreign entrant will not have a competitive advantage over U.S.-licensed operators derived from their ability to serve countries and customers that U.S. operators may be precluded from serving. Bermuda has not explained why, or to what extent, the 17/24 GHz BSS is so different from other services that we need not be concerned about ensuring a level playing field among these systems. Further, any evaluation of whether to continue to apply the ECO-SAT analysis to non-covered services in general is beyond the scope of this proceeding.

23. Last, as with all other services, we require all 17/24 GHz BSS operators seeking authority to serve the U.S. market from a non-U.S. satellite to provide the same information concerning their proposed 17/24 GHz BSS space stations as U.S. applicants must provide when applying for a space station license.[78] This includes filing FCC Form 312, information required in Schedule S, and all other information required by Section 25.114 of the Commission's rules.[79] In addition, all non-U.S-licensed satellite operators must meet the requirements adopted in this proceeding, including but not limited to bond requirements, milestone requirements, geographic service requirements, public interest obligations and spacecraft end-of-life disposal requirements.

### 4. Licensing at Co-Located 17/24 GHz BSS and DBS Orbital Locations

24. ***No Prohibition Adopted:*** EchoStar argues that we should award licenses for 17/24 GHz BSS satellites that will be co-located with DBS satellites only to existing DBS licensees at those locations.[80] According to EchoStar, this restriction would minimize the risk of harmful interference which will occur when 17/24 GHz BSS satellites are located at or near the same orbital locations as DBS satellites.[81] SES Americom and Intelsat oppose this proposal, claiming that it is anti-competitive and would block new entrants from the 17/24 GHz BSS.[82]

25. We agree with SES Americom and Intelsat. The effect of accepting EchoStar's argument would be an expansion of the authorizations of DBS licensees to include authority to operate in the 17/24 GHz BSS on the same channel and orbital location at which they are currently operating. We find that providing such rights to existing DBS licensees would hinder competition while conferring a benefit on existing DBS licensees.[83] Further, we note that, in the *FNPRM* section of this document below, we invite

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[78] *First Space Station Licensing Reform Order,* 18 FCC Rcd at 10872, para. 300. *See* 47 C.F.R. § 25.137. Thus, foreign entities must file a Schedule S, providing all the information required in Section 25.114 (c) of the Commission's rules. 47 C.F.R. § 25.114(c).

[79] 47 C.F.R. § 25.114. *See also* para. 16 above for a discussion of the requirement that applications be substantially complete.

[80] EchoStar Comments at 10.

[81] EchoStar Comments at 10.

[82] SES Americom Reply Comments at 2; Intelsat Reply Comments at 14.

[83] *See, e.g.*, Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency; Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates, *Memorandum Opinion and Order and Second Report and Order*, ET Docket No. 98-206, RM-9147, RM-9245, 17 FCC Rcd 9614, 9711-13 (2002) (declining to provide terrestrial rights in the 12.2-12.7 GHz band (continued....)

comment on various methods for coordinating DBS and 17/24 GHz BSS satellites when located near each other in the geostationary orbit, perhaps as close as 0.2° or 0.3° to each other.[84] In light of this, we find that EchoStar's proposal to prohibit non-DBS operators from applying for 17/24 GHz BSS licenses at DBS orbital locations is not necessary to prevent harmful interference between DBS and 17/24 GHz BSS satellites.

### 5. License Terms

26. ***Fifteen-Year and Eight-Year License Terms Adopted, Respectively, for Non-Broadcast and Broadcast 17/24 GHz Licensees:*** In the *NPRM*, the Commission sought comment on the license term it should apply to 17/24 GHz licenses. The Commission noted that Section 25.121 of the Commission's rules provides that licenses for space stations will be issued for a period of 15 years, except licenses for DBS space stations.[85] DBS space stations licensed as broadcast facilities are issued licenses for eight- year terms, and those DBS space stations not licensed as broadcast facilities have 10-year terms.[86] The Communications Act provides for a maximum licensing term of eight years for broadcasting facilities and allows the Commission to determine license terms for particular classes of stations, including satellite space and earth stations.[87] In the *NPRM*, the Commission proposed to adopt a 10-year license term for all non-broadcast 17/24 GHz BSS satellites.[88] For 17/24 GHz BSS satellites that will operate as broadcast facilities, the Commission proposed an eight-year license term, as provided under Section 307(c)(1) of the Communications Act.

27. DIRECTV, Intelsat, and Bermuda support a 15-year license term for 17/24 GHz systems.[89] Bermuda states that most commercial satellites being planned or built today are intended for a service life-expectancy of longer than eight years, and notes that a 15-year term would also be consistent with international practices.[90]

28. Pursuant to our statutory authority to implement license terms for different classes of space and earth stations, with the exception of DBS stations, we adopt a 15-year license term for all non-broadcast 17/24 GHz BSS licenses and an eight-year license term for 17/24 GHz BSS licensees operating as broadcasters.[91] As noted by the parties, satellites being built today are intended for longer service life

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to existing DBS licensees solely because DBS licensees already held authorizations in this band for their space station operations).

[84] *See* Section IV.B. below.

[85] 47 C.F.R. § 25.121(a).

[86] *Id.* Changes in the license terms for DBS space stations were initially addressed in the *DBS Auction Order*, which adopted a ten-year license term for non-broadcast DBS space stations. *See DBS Auction Order*, 11 FCC Rcd at 9762, para. 130.

[87] The Telecommunications Act of 1996 granted the Commission authority to "prescribe the period or periods for which licenses shall be granted and renewed ... ." Telecommunications Act of 1996, Pub. L. No. 104-104, Title II, § 203, 110 Stat. 56, 112, (1996) (amending Section 307 of the Communications Act to eliminate ten-year term and creating new Section 307(c)(1)).

[88] *17/24 GHz BSS NPRM*, 21 FCC Rcd at 7434, para. 13.

[89] DIRECTV Comments at 17, Intelsat Comments at 6, Bermuda Comments at 3. DIRECTV "sees no reason" to limit the license terms of 17/24 GHz BSS systems to 10 years.

[90] Bermuda Comments at 3.

[91] Similar to DBS, we expect 17/24 GHz BSS operators to offer subscription service on a non-broadcast, non-common carrier basis, however, there is a possibility that a licensee may choose to provide service on a broadcast or common-carrier basis. *See, e.g.*, In the Matter of Policies and Rules for the Direct Broadcast Satellite Service,
(continued....)

expectancy than in the past and should therefore be assigned a longer license term.[92] A 15-year license term for non-broadcast 17/24 GHz BSS satellites accurately reflects the useful life of most GSO satellites today and therefore, we will extend the license terms applicable to other non-broadcast GSO-like licensees to 17/24 GHz BSS licensees.

### 6. Replacement Satellites

29. ***Streamlined Procedures Adopted:*** While the Commission has consistently said that all orbital assignments confer no permanent rights of use to the licensee, it has recognized the importance of giving satellite operators some assurance that they will be able to continue to serve their customers from the same orbital location as older satellites are retired.[93] The Commission has stated that, without this assurance, operators may be discouraged from investing the hundred of millions of dollars needed to construct, launch, and operate each satellite. Further, the Commission has said that without follow-on capacity at the same orbit location, customers could experience service disruptions.[94] When an orbit location remains available for a U.S. satellite with the technical characteristics of the proposed replacement satellite, we will generally authorize the replacement satellite at the same location.[95]

30. To facilitate grant of replacement satellites, the Commission has historically processed applications for replacement satellites as they are filed, rather than subjecting them to the procedures that otherwise govern applications for new satellites.[96] Thus, Commission practice is to immediately consider an application for a replacement satellite -- and grant it if the applicant is qualified -- without subjecting the application to a "processing queue" or other procedure by which it considers other applications that may be mutually exclusive with the replacement satellite application.[97] To further expedite replacement

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*Report and Order*, 17 FCC Rcd 11331 at para. 5 (2002) (noting that subscription video service is neither broadcast nor common carrier).

[92] *See, e.g.*, Bermuda Comments at 3.

[93] *See, e.g.*, Licensing of Space Stations in the Domestic Fixed-Satellite Service, 50 Fed.Reg. 36071 (Sept. 5, 1985), at para. 27.

[94] *Id.*

[95] *Fifth Space Station Licensing Reform Order*, 19 FCC Rcd at 12657, para. 54, *citing Space Station Reform NPRM*, 17 FCC Rcd at 3887, para. 119, *citing 1988 Orbit Assignment Order*, 3 FCC Rcd at 6976 n. 31; *GE Americom Replacement Order*, 10 FCC Rcd at 13775-76, para. 6.

[96] The Commission most recently discussed its "replacement expectancy" policy in the *Space Station Licensing Reform Order. Fifth Space Station Reform Order*, 19 FCC Rcd at 12657, para. 54, *citing Space Station Reform NPRM*, 17 FCC Rcd at 3887, para. 119, *citing 1988 Orbit Assignment Order*, 3 FCC Rcd at 6976 n. 31; *GE Americom Replacement Order*, 10 FCC Rcd at 13775-76, para. 6. In preserving the expectancy, the Commission also adopted a rule codifying the definition of a replacement satellite. Section 25.165(e) of the Commission's rules defines a replacement satellite as one that is "authorized to be operated at the same orbit location, in the same frequency bands, and with the same coverage area as one of the licensee's existing satellites" and is "scheduled to be launched so that it will be brought into use at approximately the same time, but no later than, the existing satellite is retired." 47 C.F.R. § 25.165(e)(1) and (2). *See* Columbia Communications Corp, Application to Launch and Operate a Geostationary C-band Replacement Satellite in the Fixed-Satellite Service at 37.5° W.L., *Memorandum Opinion and Order*, 16 FCC Rcd 20,176 (Int'l Bur. 2001), at 20,180, para. 14, and 20,181, para. 19; MCI Communications Corp., Application for Extensions of Time to Construct and Launch Space Stations in the Domestic Fixed-Satellite Service, *Memorandum Opinion and Order*, 2 FCC Rcd 233, 235 n. 6 (1987) ("[s]hould replacement satellites fail to be implemented, the orbital locations occupied by the older satellites will become available for reassignment to another qualified licensee at the end of the license term of those satellites").

[97] *First Space Station Licensing Reform Order*, 18 FCC Rcd at 10854-56, paras. 250-254.

satellite licensing, the Commission considers unopposed replacement satellite applications with technical characteristics consistent with those of the satellite to be retired are processed under a grant-stamp procedure.[98] In the *NPRM*, we proposed to treat replacement satellite applications in the 17/24 GHz BSS under these streamlined procedures.

31. DIRECTV and Intelsat support this proposal.[99] Bermuda also supports a replacement policy that allows operators to replace "like with like," *i.e.*, replace a satellite after a premature in-orbit failure (such as caused by solar activity or manufacturing flaw) but cautions against abuses in the satellite replacement grant-stamp process.[100]

32. In order to facilitate grant of 17/24 GHz BSS replacement satellite applications, we adopt the streamlined procedures applicable to the majority of the replacement satellite applications considered by the Commission.[101] We have found that the grant-stamp procedure is an efficient method of processing replacement satellite applications and will apply this procedure to unopposed applications for replacement satellites in the 17/24 GHz BSS. Further, the procedure contains mechanisms against abuse. We will place 17/24 GHz replacement applications on Public Notice, as we do with replacement satellite applications in other services.[102] Thus, interested parties will have an opportunity to comment on all applications. We will address any concerns raised when processing the replacement application and will issue an Order, instead of a grant stamp, when appropriate.

### 7. Annual Reporting Requirement

33. ***Annual Reporting Requirements Adopted:*** In the *NPRM*, the Commission noted that most space station operators are subject to annual reporting requirements on June 30 of each year. These reports must include, among other things, the status of space station construction and anticipated launch dates.[103] The Commission requested comment on whether we should require 17/24 GHz BSS U.S.-licensees and 17/24 GHz BSS non-U.S. operators that are authorized to access the United States to submit similar annual reports.

34. Bermuda and Intelsat support a reporting requirement, stating that annual reports can be useful for monitoring the progress of milestone compliance and helping to deter speculative applications.[104] Bermuda adds that licensees should file reports regardless of whether they are U.S. operators or non-U.S. operators.[105] Bermuda also states that requiring operators to report at intervals of

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[98] *Fifth Space Station Licensing Reform Order*, 19 FCC Rcd at 12657, para. 54, *citing First Space Station Licensing Reform Order*, 18 FCC Rcd at 10856, paras. 253-54.

[99] DIRECTV Comments at 17, n. 22, Intelsat Comments at 6, Bermuda Comments at 4.

[100] Bermuda Comments at 4. In addition, Bermuda contends that, the "grant stamp" replacement procedure should be selectively applied and should recognize ITU procedures for extending the life of network notifications.

[101] *See First Space Station Licensing Reform Order,* 18 FCC Rcd at 10854-56, paras. 250-54. *See also* 47 C.F.R. § 25.165(e).

[102] *See* 47 C.F.R. § 25.151.

[103] *See, e.g.*, 47 C.F.R. §§ 25.143(e) (reporting requirements for 1.6/2.4 GHz mobile-satellite service (MSS) and 2 GHz MSS); 25.144(c) (reporting requirements for satellite digital audio radio service (SDARS); 25.145(f) (reporting requirements for the NGSO fixed-satellite service in the 20/30 GHz bands); 25.210(l) (reporting requirements for FSS). Other elements of the annual reports include a listing of non-scheduled transponder outages that last more than 30 minutes and identification of transponders not available for service or not performing to specifications. *See* 47 C.F.R. § 25.210(l).

[104] Intelsat Comments at 6, Bermuda Comments at 3.

[105] Bermuda Comments at 3.

less than one year would provide an increased opportunity to monitor progress.[106] No party objects to a reporting requirement for 17/24 GHz BSS operators.

35. We adopt the Commission's proposal to require 17/24 GHz BSS U.S.-licensees and 17/24 GHz BSS non-U.S. operators that are authorized to access the United States to submit annual reports similar to the annual reports required of most FSS satellite operators to the Commission on June 30 of each year.[107] We believe such reports, filed on an annual basis, will help keep us apprised of the status of the space station, both while it is being built and once it is in-orbit. We are not convinced that more frequent reporting is needed to achieve this objective. In addition to annual reports, licensees must file documentation that they have met various milestones at each milestone deadline. This provides the most timely way to monitor licensees' compliance with the milestone conditions in their licenses. We also note that the Commission may request at any time additional information if such request is warranted.[108]

36. Operators should file their annual reports with the Commission's International Bureau and the Commission's Columbia Operations Center in Columbia, Maryland. Specifically, the annual reports must include: (1) status of satellite construction and anticipated launch date, including any major problems or delays encountered; (2) a listing of any non-scheduled transponder outages for more than 30 minutes and the cause or causes of such outage; (3) a detailed description of the utilization made of each transponder on each of the in-orbit satellites, including the percentage of time that the system is actually used for U.S. domestic or transborder transmission, the amount of capacity (if any) sold but not in service within U.S. territorial geographic areas, and the amount of unused system capacity; and (4) identification of any transponder not available for service or otherwise not performing to specifications, the cause of these difficulties, and the date any space station was taken out of service or the malfunction identified.

#### 8. Fees

37. ***NPRM Proposal Adopted:*** In the *NPRM,* the Commission proposed that applicants for 17/24 GHz BSS satellites should pay fees associated with the "Space Stations (Geostationary)" service in Section 1.1107 of the Commission's rules.[109] In addition, we proposed that applicants seeking authority to operate earth stations in the 17/24 GHz BSS should pay fees associated with the "Fixed Satellite Transmit/Receive Earth Stations" in Section 1.1107.[110] There were no comments on our filing fee proposals and we adopt our fee proposals.

### B. Public Interest and Other Statutory Obligations

#### 1. Public Interest Obligations

38. ***DBS and DTH Public Interest Obligations Adopted for 17/24 GHz BSS:*** Section 25.701 of our rules requires DBS providers to comply with certain political broadcast requirements and children's television advertising limits, and to set aside four percent of channel capacity for noncommercial, educational or informational programming.[111] The entities subject to Section 25.701

[106] Bermuda Comments at 3.

[107] *See* 47 C.F.R. § 25.210(l).

[108] *See, e.g.*, 47 U.S.C. §§ 5(i) and 403.

[109] *17/24 BSS GHz NPRM,* 21 FCC Rcd at 7432, para. 8. *See* 47 C.F.R. § 1.1107, 9.

[110] *17/24 BSS GHz NPRM,* 21 FCC Rcd at 7432, para. 8. *See* 47 C.F.R. § 1.1107, 3.

[111] *See* 47 C.F.R. § 25.701. *See also* 47 U.S.C. § 335.

include entities licensed to operate satellites in the 12.2 to 12.7 GHz DBS frequency bands;[112] entities licensed pursuant to Part 25 of the Commission's rules to provide FSS via the Ku-band,[113] that sell or lease transponder capacity to a video program distributor that offers a specified number of DTH video channels to consumers; and non-U.S. licensed satellites providing DBS or DTH-FSS services in the United States.[114] The *NPRM* proposed that, to the extent a 17/24 GHz BSS space station is used to provide video programming to consumers in the United States (DBS-like services),[115] the licensee should be subject to the public interest obligations contained in Section 25.701. We invited comment on this proposal.[116]

39. Commenters generally support applying public interest requirements to the 17/24 GHz BSS. SES Americom, however, contends that such requirements should be imposed only on 17/24 GHz BSS licensees that distribute programming to end users, and not on 17/24 GHz BSS licensees that are strictly satellite operators with no programming control, because they are not in a position to comply with the obligations.[117] In reply, EchoStar states that if public interest obligations are imposed on any 17/24 GHz BSS licensees, they should be imposed uniformly on all such licensees.[118] DIRECTV also believes that public interest obligations should be imposed equally on all 17/24 GHz BSS licensees, and states that the Commission has previously addressed and rejected SES Americom's arguments.

40. We find that the obligations imposed on DBS providers by Section 25.701[119] should apply uniformly if the 17/24 GHz BSS space station is used to provide video services to consumers in the United States. SES Americom's argument that program distributors using satellite capacity should be ultimately responsible for fulfilling these obligations was specifically addressed and rejected by the Commission when it originally adopted the public interest rules and on reconsideration of those rules.[120] We see no reason to adopt a different approach for operations in the 17/24 GHz BSS. Accordingly, we adopt the proposal to amend Section 25.701 to apply to any 17/24 GHz BSS licensee, to the extent that the space station is used to provide video programming to consumers in the United States.

41. Although Media Access Project supports the Commission's proposal to impose public

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[112] In 2002, the Commission released a *Report and Order* eliminating Part 100 of the Commission's Rules. The Commission moved Section 100.5 to Section 25.701 and eliminated the reference to entities licensed pursuant to Part 100. Instead, the new rule in section 25.701 (a)(1) defines "DBS Providers" as entities licensed to operate satellites in the 12.2-12.7 DBS frequency bands. *See* Policies and Rules for the Direct Broadcast Satellite Service, *Report and Order,* 17 FCC Rcd 11331, 11344-45, paras. 22-24 (2002) (*"Part 100 Report & Order"*). For purposes of this section of the *Report and Order*, any reference to Part 100 licensees means entities defined in Section 25.701(a)(1).

[113] The Ku-band frequencies referenced in the statute are 11.7 GHz-12.2 GHz and 14.0 GHz-14.5 GHz.

[114] 47 C.F.R. § 25.701(a).

[115] In the *NPRM*, we used the term "DBS-like services." For purposes of this proceeding, DBS-like services are those provided by satellite for point to multipoint distribution of video programming to consumers in the United States.

[116] *17/24 BSS GHz NPRM,* 21 FCC Rcd at 7436-37, para. 20.

[117] SES Americom Comments at 24-26.

[118] EchoStar Reply Comments at 21.

[119] 47 C.F.R. § 25.701.

[120] *See* Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Public Interest Obligations, *Report and Order,* 13 FCC Rcd 23254 (1998); Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, *Second Order on Reconsideration of First Report and Order,* 19 FCC Rcd 5647, 5653 (2004).

interest obligations on 17/24 GHz BSS licensees that provide DBS-like services, it argues that the Commission should increase the amount of programming that service providers in this band are required to reserve for non-commercial programming of an educational or informational nature. It argues that, given the expansion of spectrum capacity being offered to service providers in this proceeding, the Commission should require that licensees offer an accompanying increase in their public interest programming from the statutory minimum of four percent to the statutory maximum of seven percent. According to Media Access Project, the increase would provide value to the public in return for their use of the scarce public resources of spectrum and orbital locations.[121] EchoStar argues that a public interest programming set-aside requirement of seven percent would be a disincentive to development of the 17/24 GHz BSS and would "significantly limit" the capacity available for sought-after services such as local-into-local television broadcast stations and high-definition programming.[122]

42. To the extent that Media Access Project is arguing that the channel reservation requirement should be increased for all DBS providers, including those originally covered by Section 25.701, that issue is beyond the scope of this proceeding. With respect to any argument that the reservation be increased for only licensees in the 17/24 GHz BSS, we find that this might prove detrimental to development of this band by placing greater burdens on these licensees than those operating in others bands. Thus, we require 17/24 GHz BSS licensees to reserve four percent of their channel capacity, as defined in Section 25.701, for use by qualified programmers for noncommercial programming of an educational or informational nature.[123]

43. The *NPRM* also sought comment on whether licensees in the 17/24 GHz BSS qualify to use the compulsory copyright licenses granted under Sections 119 and 122 of the Copyright Act and, if so, whether broadcast carriage requirements should apply.[124] These statutory licenses permit satellite carriers, as defined in the Copyright Act, to provide television broadcast signals to their subscribers. Section 119 of the Copyright Act defines "satellite carrier" as an entity that uses a satellite operating in the FSS or DBS service for point-to-multipoint distribution of television signals.[125] This section of the Copyright Act allows satellite carriers to offer distant broadcast signals under certain circumstances. Section 122 of the Copyright Act provides a license for local-into-local service and defines "satellite carrier" by reference to the definition in Section 119.[126]

44. Both DIRECTV and EchoStar, as well as NAB, support allowing 17/24 GHz BSS licensees to qualify to use the compulsory copyright licenses.[127] DIRECTV asserts that while the 17/24 GHZ BSS service is not totally in either the DBS or FSS frequency bands, the uplink for this service is in a frequency band allocated to FSS and, therefore, the copyright license could be construed to cover 17/24 GHz BSS. Alternatively, DIRECTV asserts that the Commission could amend its definition of "DBS" to include use of the 17/24 GHz BSS downlink band.[128] Although we will not offer an opinion on the

[121] Media Access Project Comments at 1-3 and 7-9. *See* 47 U.S.C. § 335(b)(1).

[122] EchoStar Reply Comments at 22.

[123] *See* 47 C.F.R. § 25.701(c).

[124] *See 17/24 BSS GHz NPRM,* 21 FCC Rcd at 7437, para. 21. *See also* 17 U.S.C. §§ 119, 122.

[125] 17 U.S.C. §119(d)(6). *See also* 47 U.S.C. § 339.

[126] 17 U.S.C. §122 (j)(3). *See also* 47 U.S.C. § 338.

[127] DIRECTV Comments at 39-40, EchoStar Comments at 22, and NAB Comments at 1-3.

[128] DIRECTV Comments at 12-13. "DBS" is defined in the Commission's rules, 47 C.F.R. § 25.201, as follows: "A radiocommunication service in which signals transmitted or retransmitted by space stations, using frequencies specified in Section 25.202(a)(7) [12.2-12.7 GHz space to earth] are intended for direct reception by the general public." We decline to change this band-specific definition of DBS because there are certain requirements for

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appropriate construction of the Copyright Act, we believe that Sections 338 and 339 of the Communications Act would apply to 17/24 GHz BSS licensees and that operators in this band, to the extent that they provide DBS-like service, qualify for use of the statutory copyright licenses. These licensees will provide point-to-multipoint service, in part using FSS frequencies, and thus they appear to come within the definition of a satellite carrier. Licensees availing themselves of the statutory copyright licenses must, of course, abide by the accompanying broadcast carriage requirements in the statute and in Commission rules,[129] and, if they offer service to more than 5 million customers, must provide television broadcast signals to subscribers in Alaska and Hawaii.[130]

### 2. Equal Employment Opportunities

45. ***EEO Requirements Adopted:*** The *NPRM* noted that Section 25.601 of the Commission's rules requires an entity that owns or leases an FSS or DBS service facility to provide video programming directly to the public on a subscription basis to comply with the equal employment opportunity (EEO) requirements. These requirements are set forth in Part 76 of the Commission's rules and apply if the entity exercises control over the video programming it distributes.[131] We proposed to apply Section 25.601 to 17/24 GHz BSS licensees to the extent such licensees provide DBS-like services. In addition, we proposed to require 17/24 GHz BSS licensees to comply with any other EEO requirements that may be subsequently adopted or enforced by the Commission for broadcasters and multichannel video service distributors (MVPDs). We sought comment on this proposal.

46. EchoStar states that if we impose EEO obligations on 17/24 GHz BSS licensees, we should apply them uniformly to all licensees.[132] Bermuda states generally that it supports our proposals.[133] We find that it is in the public interest to apply Section 25.601 of our rules to 17/24 GHz BSS licensees to the extent such licensees provide DBS-like services, as well as to require 17/24 GHz BSS licensees to comply with any other EEO requirements that may be subsequently adopted or enforced by the Commission for broadcasters and MVPDs. Accordingly, we will apply Section 25.601 of our rules to 17/24 GHz BSS licensees to the extent such licensees provide DBS-like services, and 17/24 GHz BSS licensees will be required to comply with any other EEO requirements that may be subsequently adopted or enforced by the Commission for broadcasters and MVPDs.

### 3. Geographic Service Rules

47. ***Service Requirements for Alaska and Hawaii Adopted:*** The Commission is committed to establishing policies and rules that will promote service to all regions in the United States, particularly to traditionally underserved areas, such as Alaska and Hawaii, and other remote areas. To achieve these

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operations in the 12.2-12.7 GHz band imposed by the ITU Region 2 BSS Plan that do not apply to the 17/24 GHz BSS or other frequency bands in which DBS-like services are provided. See ITU Radio Regulations, Appendices 30 and 30A. The provisions of Appendices 30 and 30A of the International Radio Regulations are applicable to the BSS in the frequency bands 12.2-12.7 GHz (Region 2) and to their associated feeder links in the bands 17.3-17.8 GHz (Region 2). Other BSS allocations are not subject to the provisions of these Plans.

[129] *See* 47 U.S.C. § 338(a), 47 C.F.R. § 76.66.

[130] 47 U.S.C. § 338(a)(4). *See also* Implementation of Section 210 of the Satellite Home Viewer Extension and Reauthorization Act of 2004 to Amend Section 338 of the Communications Act, *Report and Order*, 20 FCC Rcd 14242 (2005).

[131] *See* 47 C.F.R. § 25.601.

[132] EchoStar Comments at 21.

[133] Bermuda Comments at 4.

goals, the *NPRM* proposed to apply geographic service rules for the states of Alaska and Hawaii in the 17/24 GHz BSS. Specifically, to the extent that 17/24 GHz BSS space stations are used to provide video programming to consumers in the United States, we proposed to adopt rules analogous to those in effect for DBS satellites in Section 25.148(c) of the Commission's rules.[134] These rules require DBS licensees to provide service to Alaska and Hawaii where such service is technically feasible from the authorized orbital location. DBS applicants who do not propose to serve Alaska and Hawaii at the licensing stage must provide technical analyses to the Commission demonstrating that such service is not feasible as a technical matter or that, while technically feasible, such service would require so many compromises in satellite design and operation as to make it economically unreasonable. The Commission sought comment on this proposal. In addition, the *NPRM* noted that it is likely that many of the satellite operators in the 17/24 GHz BSS will operate multiple satellites. We asked whether, in such instances, we should apply geographic service rules at each orbital location or on a system-wide basis.[135]

48. Commenters generally support adopting rules analogous to the DBS rules.[136] DIRECTV and EchoStar also support applying the rules on a system-wide basis rather than on an orbital location basis.[137] DIRECTV states that applying the rules on a system-wide basis will provide flexibility without compromising the goal of comparable service to all regions of the United States.[138] EchoStar notes that the technical feasibility of service from a particular orbital location may not be the same for the 12 GHz and 17 GHz bands.

49. Accordingly, 17/24 GHz BSS licensees, to the extent that such licensees provide DBS-like services, are required to certify that they will provide service to Alaska and Hawaii comparable to that provided to locations in the 48 contiguous United States (CONUS), unless such service is not technically feasible or not economically reasonable from the authorized orbit location.[139] In addition, we

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[134] *17/24 BSS GHz NPRM,* 21 FCC Rcd at 7437, para. 23. 47 C.F.R. § 25.148(c).

[135] *17/24 BSS GHz NPRM,* 21 FCC Rcd at 7438, para. 24. *See* EchoStar Satellite LLC, *Memorandum Opinion and Order*, 19 FCC Rcd 6075 (2004) (In this Order, the International Bureau granted EchoStar's request for a waiver of the geographic service rule for its EchoStar 4 satellite at the 157° W.L. orbital location because service to Alaska and Hawaii was not technically feasible from that satellite at that particular orbital location, and EchoStar was providing service to Alaska and Hawaii from its satellites at the 119° orbital location.); In re EchoStar Satellite Corporation, DIRECTSAT Corporation, EchoStar DBS Corporation, *Memorandum Opinion and Order,* 13 FCC Rcd 8595 (1998) (In this Order, the International Bureau granted EchoStar's request for a waiver of the geographic service rule for its EchoStar 1 satellite at the 148° W.L. orbital location because service to Hawaii was not technically feasible from that satellite at that particular orbital location, and EchoStar pledged to provide service to Hawaii from its satellite at the 119.2° W.L. orbital location.).

[136] *See* DIRECTV Comments at 18, EchoStar Comments at 21-22, Bermuda Comments at 5.

[137] DIRECTV Comments at 18-19, EchoStar Reply Comments at 6, 23. In this context, "system-wide" means the combination of all of the space stations in a particular provider's fleet that are licensed to operate in the 17/24 GHz BSS. Thus, when applying the rule on a system-wide basis as proposed by DIRECTV and EchoStar, a provider could meet the geographic service requirement by providing service to Alaska and Hawaii using a subset of the 17/24 GHz BSS space stations in its fleet. The provider would not have to provide service to Alaska and Hawaii from every 17/24 GHz BSS space station in its fleet from which such service is technically feasible and not economically unreasonable.

[138] DIRECTV Comments at 18-19.

[139] The Commission has recently revised Form 312, the satellite license application form, to require all applicants subject to geographic service rule requirements to certify that they will comply with those requirements. *See* 71 Fed. Reg. 62463 (Oct. 25, 2006); 72 Fed. Reg. 5715 (Feb. 7, 2007). As a result, 17/24 GHz BSS licensees will also be subject to a geographic service rule certification. *See* International Bureau Announces Revision to FCC Form 312, Main Form, *Public Notice,* DA 07-1762 (rel. April 17, 2007).

require applicants to design and configure 17/24 GHz BSS satellites to be capable of providing service to Alaska and Hawaii that is comparable to the service that such satellites will provide to CONUS subscribers.[140] Furthermore, we require applicants to design and configure these satellites to be able to provide service to Alaska and Hawaii from any orbital location capable of providing service to either Alaska or Hawaii to which they may be relocated in the future. Thus, regardless of the location to which the satellite is initially authorized to operate from, if moved to a location capable of providing coverage to Alaska and Hawaii, the satellite will be configured to provide service to Alaska and Hawaii at the new orbital location. Applying geographic service requirements to 17/24 GHz BSS operators in this manner will best ensure that 17/24 GHz BSS service provided to Alaska and Hawaii is comparable to that provided to CONUS locations. Although we are applying these requirements to each satellite where technically feasible instead of on a system-wide basis as proposed by DIRECTV and EchoStar, we believe that operators will have sufficient flexibility to design their systems in a manner that will be both technically and economically efficient. We also require licensees to certify that replacement and relocated satellites at locations from which service to Alaska and Hawaii had been provided by another 17/24 GHz BSS satellite will have the capability to provide at least the same level of service to Alaska and Hawaii as the previous 17/24 GHz BSS satellite at that location. 17/24 GHz BSS applicants who do not intend to provide service to Alaska and Hawaii must provide, in their initial application, technical analyses to the Commission demonstrating that such service is not feasible as a technical matter or that, while technically feasible, such service would require so many compromises in satellite design and operation as to make it economically unreasonable.

### 4. Emergency Alert System

50. ***EAS Requirements Adopted:*** In the *NPRM*, the Commission noted that, in the *EAS First Report and Order and Further Notice,* the Commission amended Part 11 of its rules to require participation in the Emergency Alert System (EAS) by digital broadcast stations, digital cable systems, DBS services, and DARS.[141] The *NPRM* also noted that in the *EAS First Report and Order and Further Notice*, the Commission defined DBS broadly to include the "vast majority of DTH services, particularly those which viewers may have expectations as to available warnings based on experience with broadcast television services."[142] Because the same concerns the Commission addressed in the *EAS First Report and Order and Further Notice* are presented with the introduction of services by 17/24 GHz BSS providers, the *NPRM* proposed to apply the EAS requirements to providers of those services to the extent

[140] *See Part 100 Report and Order,* 17 FCC Rcd at 11367, para. 72.

[141] *See* Review of the Emergency Alert System, *First Report and Order and Further Notice of Proposed Rulemaking*, 20 FCC Rcd 18625 (rel. Nov. 10, 2005) (*EAS First Report and Order and Further Notice*). In the Further Notice of Proposed Rulemaking that accompanied the *EAS First Report and Order and Further Notice*, the Commission sought comment on how DBS providers might deliver regionally targeted alerts in a next generation alert and warning system. *Id.* at para. 68.

[142] *Id.* at para 49. In the *EAS First Report and Order and Further Notice*, the Commission defined DBS providers for EAS purposes to include: (1) entities licensed to operate satellites in the 12.2 to 12.7 GHz DBS frequency bands; (2) entities licensed to operate satellites in the Ku-band fixed satellite service (FSS) and that sell or lease capacity to a video programming distributor that offers service directly to consumers providing a sufficient number of channels so that four percent of the total applicable programming channels yields a set aside of at least one channel of non-commercial programming pursuant to section 25.701(e) of the Commission's rules, or (3) non-U.S.-licensed satellite operators in the Ku-band that offer video programming directly to consumers in the United States pursuant to an earth station license issued under Part 25 of this title and that offer a sufficient number of channels to consumers so that four percent of the total applicable programming channels yields a set aside of one channel of non-commercial programming pursuant to Section 25.701(e) of the Commission's rules. *Id.*

that 17/24 GHz BSS licensees provide DBS-like services.[143]

51. Commenters disagree as to whether the Commission should apply EAS requirements to all 17/24 GHz BSS licensees. SES Americom and Intelsat maintain that EAS requirements should apply only to 17/24 GHz BSS licensees that distribute programming to end users and not to FSS licensees that provide satellite capacity, such as SES Americom and Intelsat.[144] According to SES Americom, FSS operators have conclusively demonstrated that placing EAS obligations on the licensee instead of the programming distributor impairs the effectiveness of the EAS program and prevents the Commission from penalizing a programming distributor that fails to deliver a required alert.[145] SES concludes that if the Commission decides to apply EAS requirements to the 17/24 GHz BSS, it should ensure that they are placed only on programming distributors and not on the underlying satellite operators.[146]

52. EchoStar and DIRECTV disagree with SES Americom and Intelsat. On reply, EchoStar and DIRECTV argue that all 17/24 GHz BSS licensees, whether they provide programming or underlying capacity, should be subject to EAS requirements.[147] DIRECTV also notes that the Commission has previously determined that satellite licensees, such as Intelsat, should be subject to EAS requirements for other satellite services.[148] Consequently, DIRECTV argues, unless the Commission changes its policy regarding the application of EAS requirements to other services it should not adopt Intelsat and SES Americom's proposal for the 17/24 GHz service alone.[149]

53. Bermuda also submitted comments in support of applying EAS requirements to all 17/24 GHz BSS licensees that provide DBS-like services. Bermuda argues that imposing this requirement not only insures that all satellite operators providing DTH-like or DBS-like services will be subject to the same requirements, but also means that consumers will receive equal services in the event of an emergency. Bermuda further states that in the broader context of EAS, it has concerns regarding extreme weather conditions and recognizes that resilient communications are necessary for the dissemination of vital information to the public in times of emergency.[150]

54. We believe that customers of the new 17/24 GHz BSS services would likely have similar expectations regarding these services as they do towards those other satellite services where video programming is provided directly to consumers. The particular band in which DTH services are offered has no relevance to customers' expectations regarding their ability to receive warnings. In other words, the EAS obligations for these services should be uniform no matter what portion of spectrum a particular provider chooses for its services. In this regard, we note that, pursuant to the rules adopted in the *EAS First Report and Order*, entities providing DBS services as defined by Section 25.701(a) of the Commission's rules,[151] will be subject to the Part 11 EAS rules effective May 31, 2007. In light of this precedent and the reasons stated above, we conclude that, where 17/24 GHz BSS space stations are used to provide video services directly to consumers, the EAS requirements will apply. This will ensure

[143] *17/24 GHz BSS NPRM*, 21 FCC Rcd 7439-40, para. 27.

[144] Intelsat Comments at 11, SES Americom Comments at 26.

[145] SES Americom Comments at 26.

[146] SES Americom Comments at 26.

[147] DIRECTV Reply Comments at 33, EchoStar Reply Comments at 5.

[148] DIRECTV Reply Comment at 33.

[149] DIRECTV Reply Comments at 33.

[150] Bermuda Comments at 6.

[151] 47 C.F.R. § 25.701(a).

consistent application of the EAS requirements irrespective of the different spectrum being used. We note, however, that PanAmSat Corporation, SES Americom, Inc. and Intelsat, Ltd. (collectively the "FSS Group") filed a petition for partial reconsideration of the *EAS First Report and Order*,[152] making arguments essentially identical to those raised in their comments in this proceeding.[153] We will address these issues in an Order dealing with the reconsideration petitions in the EAS proceeding.

### C. Use of BSS Spectrum at 17.7-17.8 GHz

55. ***17.7-17.8 GHz BSS Spectrum Limited to International Service and TT&C Operations Not Prohibited Just Below 17.7 GHz:*** Although the international allocation for Region 2 BSS in the space-to-Earth direction extends from 17.3-17.8 GHz, in the *18 GHz Report and Order*, the Commission extended the domestic allocation to the BSS only to 17.7 GHz.[154] As discussed in the *Notice*, the Commission based its decision in part upon the ubiquitous nature of broadcasting-satellite services which we believed would preclude successful coordination with a terrestrial service that was similarly widely deployed, and taking into account the amount of terrestrial fixed spectrum being lost as a result of that proceeding.[155] In the *NPRM*, the Commission recognized that U.S. satellite operators might wish to use the 17.7 – 17.8 GHz band to provide service to receiving earth stations located within ITU Region 2, but outside of the United States.[156] Accordingly, the Commission proposed to permit U.S. operators to use the international allocation to the BSS, but to limit use of the downlink to international service only, *i.e.*, to receiving earth stations located outside of the U.S. and its possessions.[157] The *NPRM* sought comment on this proposal and any rule changes that might be necessary to effect its implementation.[158] Recognizing that the footprint of satellite beams serving nearby Region 2 countries could illuminate portions of the United States, the *NPRM* also proposed to adopt Power Flux Density (pfd) limits in order to protect terrestrial service antennas from co-frequency interference from space station transmissions. Specifically, it proposed to adopt the same pfd limits that were imposed on FSS transmissions in the 17.7 – 17.8 GHz band by Section 25.208(c) of the Commission's rules[159] prior to the adoption of the *18 GHz*

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[152] Petition for Partial Reconsideration of PanAmSat Corporation, SES Americom, Inc., and Intelsat, Ltd., in Docket No. 04-296, filed December 27, 2005 (FSS Group Petition).

[153] In its petition, the FSS Group requests the Commission to revise its conclusions by requiring EAS to apply to the DTH video programming distributor, not the FSS satellite operator. Should the Commission decide that its EAS rules would continue to apply to FSS satellite operators providing capacity to DTH video programming distributors, the FSS Group requests that the Commision rule that contracts between FSS operators and DTH video programming distributors for the sale or lease of satellite capacity that are already in place when the EAS rules become effective for DBS providers should be grandfathered. Finally, the FSS Group requests that the Commission provide an exemption for DTH-FSS services that are directed primarily to consumers outside the United States. On March 2, 2006, EchoStar Satellite L.L.C. (EchoStar) and DIRECTV Latin America, LLC (DTVLA) filed oppositions to the FSS Group's petition for partial reconsideration. *See* Opposition of EchoStar Satellite L.L.C. to the Petition for Partial Reconsideration of PanAmSat Corporation, SES Americom, Inc., and Intelsat, Ltd., filed March 2, 2006 (EchoStar Opposition); *see also* Opposition of Petition for Partial Reconsideration, DIRECTV Latin America, LLC, filed March 2, 2006 (DTVLA Opposition).

[154] *See 18 GHz Report & Order,* 15 FCC Rcd at 13475, paras. 95-99.

[155] *Id.*

[156] *17/24 GHz BSS NPRM,* 21 FCC Rcd at 7441, paras. 31-32.

[157] *Id.*

[158] *Id.*

[159] These limits were as follows:

$-115$ dBW/m$^2$/MHz for $0° \leq \delta \leq 5°$

(continued....)

*Report and Order*[160] in 2002, and are also the same limits that Article 21 of the ITU Radio Regulations currently imposes on FSS operators in this band.[161] The *NPRM* sought comment on extension of these proposed pfd limits to the 17/24 GHz BSS.[162]

56. Commenters responding to this issue consistently favor the Commission's proposal to permit use of the 17.7 – 17.8 GHz band outside of the United States and its possessions.[163] However, many argue that the Commission's proposal did not go far enough with regard to domestic service. DIRECTV and EchoStar both request that the Commission also allow satellite operators to provide service to U.S.-based receiving earth stations on a non-protected, non-interference basis, arguing that there is very little chance that downlink transmissions from a BSS satellite would interfere with the much stronger terrestrial service transmissions in this portion of the band and stating that spectrum should not be required to remain fallow in areas where there is little terrestrial use.[164] Intelsat further argues that coordination with Fixed Service (FS) operators in the 17.7 – 17.8 GHz band is feasible particularly if FS deployment is frozen after a certain date to permit BSS operators to deploy their earth stations with full knowledge of the locations of FS earth stations.[165] Alternatively, Intelsat suggests that the Commission could grant BSS and FS co-primary status and protect receive earth station sites on a case-by-case basis while permitting FS deployment in the band to continue.[166] Finally, SES Americom states that the Commission should entertain requests for a waiver of the Commission's rules to permit use of the 17.7 – 17.8 GHz band on a case-by-case basis.[167]

57. The Fixed Wireless Communications Coalition (FWCC) opposes satellite operators' requests for authority to provide domestic service in the 17.7 – 17.8 GHz band.[168] The FWCC claims that the FS used the band heavily even prior to the 1998 *18 GHz Report and Order*[169] and that the number of FS links continues to increase. It argues that such an action on the Commission's part would be both bad policy and contrary to law as the *NPRM* expressly took such a possibility off the table.[170] The FWCC further argues that satellite operators seek to reopen the issue of terrestrial service and satellite service sharing that has already been thoroughly aired and considered, and urges the Commission to state that the

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|---|---|
| $-115 + 0.5(\delta-5)$ dBW/m$^2$/MHz | for $5° \leq \delta \leq 25°$ |
| -105 dBW/m$^2$/MHz | for $25° \leq \delta \leq 90°$ |

where $\delta$ is the angle of arrival above the horizontal plane.

[160] *See 18 GHz Report and Order*, 15 FCC Rcd 13430.

[161] *See* Table 21-4 of the ITU Radio Regulations.

[162] *17/24 GHz BSS NPRM,* 21 FCC Rcd at 7441, paras. 31-32.

[163] *See* DIRECTV Comments at 33-35, EchoStar Comments at 23, Intelsat Comments at 8-10, and SES Americom Comments at 22.

[164] *See* DIRECTV Comments at 34, EchoStar Comments at A.6.3.

[165] *See* Intelsat Comments at 8-9, Intelsat Reply Comments at 18.

[166] *Id.* In its Reply Comments, DIRECTV maintains that there is limited FS geographic deployment in the band and that due to satellite operator's demonstrated interest, Intelsat's proposal should be carefully considered. *See* DIRECTV Reply Comments at 29.

[167] *See* SES Americom Reply Comments at 18.

[168] *See* FWCC Reply Comments at 4.

[169] *See 18 GHz Report and Order.*

[170] *Id.*

matter is closed.[171] FiberTower also opposes 17/24 GHz BSS domestic use of the 17.7 – 17.8 GHz band, stating that it would not be possible to effect coordination with ongoing FS operations in the band and that such a reallocation would once again disrupt FS operations in order to rechannelize the 18 GHz band.[172]

58. In the *NPRM*, the Commission made clear that it did not intend to reexamine the question of BSS and FS sharing in the 17.7 –17.8 GHz band in this rulemaking.[173] We believe that undertaking examination of such a technically complex issue would only result in a protracted and contentious rulemaking. As stated in the *NPRM*, this could only disserve our goal of establishing technical and service rules for the 17/24 GHz BSS in a timely manner, particularly recognizing the April 1, 2007 date at which the allocation became effective. Moreover, the Commission also stated that no applicant had provided either convincing evidence that terrestrial FS spectrum relocation requirements are less demanding than predicted, or a compelling argument that coordination of widely deployed terrestrial services with ubiquitously located 17/24 GHz BSS receivers would be readily feasible.[174] That remains true to date. For these reasons, we agree with the FWCC's assertion that reopening the issue in this rulemaking is not appropriate, and we decline to consider requests to make the 17.7 – 17.8 GHz band available for domestic BSS operations as a part of this proceeding.

59. EchoStar, DIRECTV and SES Americom all suggest that reception of some non-protected BSS transmissions at U.S. earth stations might be accommodated successfully in the 17.7 – 17.8 GHz band. EchoStar notes that a similar approach has been undertaken successfully with FSS DTH antennas in the extended Ku-bands.[175] In certain instances, FSS applicants seeking to use extended Ku-band spectrum for domestic service, have obtained waivers of the Commission's rules and agreed to accept all interference from FS stations as a condition of authorization.[176] However, in the extended Ku-bands, there is an existing primary allocation to the FSS in the 10.95 – 11.2 GHz and 11.45 – 11.7 GHz bands, although footnote NG 104 to the United States Table of Frequency Allocations (Table of Allocations) limits FSS use to international systems only.[177] In the case of the 17.7 – 17.8 GHz band, neither a primary nor a secondary domestic allocation to the BSS exists in the space-to-Earth direction.

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[171] *Id.*

[172] *See* FiberTower Comments at n. 17.

[173] *See 17/24 GHz BSS NPRM* at 7440, para. 30. In the *NPRM*, the Commission stated that "we do not propose to authorize or to protect the reception off BS (space-to-Earth) transmissions in the United States and its possessions in the 17.7 – 17.8 GHz band." *17/24 GHz BSS NPRM*, 21 FCC Rcd at 7440, para. 30.

[174] *Id.*

[175] *See* EchoStar Reply Comments at 14.

[176] Specifically, on a number of occasions, the Commission has authorized downlink of domestic service to customer receive-only earth stations in the 10.95-11.2 GHz and 11.45-11.7 GHz bands. *See* PanAmSat Licensee Corp. Application for Authority to Use the Extended Ku-Band Frequencies for Domestic Service, *Order and Authorization*, DA 05-2444, Sat. Div., Int'l Bur., (released Sept. 13, 2005); EchoStar KuX Corporation Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-Band Frequencies in the Fixed-Satellite service at the 83° W.L. Orbital Location, *Order And Authorization*, 20 FCC Rcd 919, 921-922 (para. 9) (Sat. Div., Int'l Bur. 2004); EchoStar Satellite LLC Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-Band Frequencies in the Fixed-Satellite Service at the 109° W.L. Orbital Location, *Order and Authorization*, 20 FCC Rcd 930 (Sat. Div., Int'l Bur., 2004); EchoStar KuX Corporation Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-Band Frequencies in the Fixed-Satellite Service at the 121° W.L. Orbital Location, *Order And Authorization*, 20 FCC Rcd 942 (Sat. Div., Int'l Bur. 2004).

[177] *See* 47 C.F.R. § 2.106 and NG 104.

The Commission will not modify the Table of Allocations to provide a secondary allocation to the BSS in this band for the reasons stated above – we do not intend to reexamine BSS/FS sharing issues in this rulemaking.

60. Commenters also support the adoption of pfd limits in the 17.7 – 17.8 GHz band to protect terrestrial networks. SES Americom and Intelsat agree with the Commission's proposal to apply the pfd limits of Article 21 of the ITU Radio Regulations for FSS systems operating in the 17.7 – 19.7 GHz band to BSS downlink transmissions in the 17.7 – 17.8 GHz band.[178] DIRECTV, although proposing a different (graduated) set of pfd values for 17/24 GHz BSS downlink transmissions in general, states that the ITU Article 21 pfd limits are sufficient to protect terrestrial services from interference.[179] EchoStar also proposes a graduated set of pfd values for the entire 17.3 – 17.8 GHz band and compares its proposed values to the limits proposed in the *NPRM,* noting that at low elevation angles its values are actually 8 dB more stringent than those of Article 21, hence sufficient to protect terrestrial services from interference.[180] Accordingly, as proposed in the *NPRM*, we extend the FSS pfd limits of Article 21 of the ITU Radio Regulations to 17/24 GHz BSS in the 17.7 – 17.8 GHz band. Consistent with other pfd requirements in our rules,[181] the maximum values will apply to elevation angles (δ) between 25° and 90° above the horizontal plane. We will restrict pfd values by a factor of (δ-5)/2 for elevation angles between 5° and 25° above the horizontal plane, and to values of 10 dB lower for elevation angles between 0° and 5° above the horizontal plane.

61. The *NPRM* also sought comment on Tracking, Telemetry and Command (TT&C) operations in the 17.7 – 17.8 GHz band.[182] Section 25.202(g) of the Commission's rules requires that TT&C functions for all U.S. domestic satellites be conducted at either or both edges of the allocated band(s).[183] In the case of the 17.3 – 17.7 GHz allocation, this rule would permit TT&C operations at frequencies just above 17.3 GHz or just below 17.7 GHz. The Commission's rules would not permit TT&C operations into U.S.-based earth stations at frequencies just below 17.8 GHz. Recognizing that reliance upon foreign-based TT&C facilities for on-station operations could adversely affect the U.S. operator's ability to maintain control of its spacecraft, the *NPRM* sought comment on how best to accommodate TT&C operations for those applicants seeking to use the 17.7 – 17.8 GHz band for international service.[184] The *NPRM* asked further whether there was sufficient spectrum available above 17.3 GHz to accommodate these operations, particularly in light of the reverse-band sharing situation, and potential for out-of-band interference from radar systems operating just below 17.3 GHz.[185]

62. EchoStar proposes that the Commission set aside 10 MHz guardbands at the edges of the 17/24 GHz bands for on-station TT&C operations. In the 17 GHz band, EchoStar asks us to define a guardband at the lower band edge near 17.3 GHz, but not at frequencies near 17.7 GHz because of the planned use by many operators of the entire 17.3-17.8 GHz bandwidth. Rather, EchoStar asserts that the upper guardband is better defined at 17.790-17.800 GHz.[186] At present, Section 25.202(g) of our rules

[178] *See* SES Americom Comments at 22, Intelsat Comments at 9.

[179] *See* DIRECTV Comments at 34.

[180] *See* EchoStar Comments at A.6.3.

[181] *See, e.g.*, 47 C.F.R. § 25.208(a)-(c).

[182] *See 17/24 GHz BSS NPRM,* 21 FCC Rcd at 7442, para. 33.

[183] *See* 47 C.F.R. § 25.202(g).

[184] *See 17/24 GHz BSS NPRM,* 21 FCC Rcd at 7442, paras. 33.

[185] *Id.*

[186] *See* EchoStar Comments at A.6.5.